VOL. 547, NOS. 1+2 JOURNAL OF CHROMATOGRAPHY JUNE 28, 1991

CONTENTS

(*Abstracts/Contents Lists published in Analytical Abstracts, Biochemical Abstracts, Biological Abstracts, Chemical Abstracts, Chemical Titles, Chromatography Abstracts, Current Contents/Life Sciences, Current Contents/Physical, Chemical & Earth Sciences, Deep-Sea Research/Part B: Oceanographic Literature Review, Excerpta Medica, Index Medicus, Mass Spectrometry Bulletin, PASCAL-CNRS, Referativnyi Zhurnal, Research Alert and Science Citation Index*)

REGULAR PAPERS

Column Liquid Chromatography

Optimization of Nafion-coated electrodes for selective detection in high-performance liquid chromatography
by A. J. Tüdős, W. J. J. Ozinga and W. Th. Kok (Amsterdam, Netherlands) (Received February 22nd, 1991) 1

Low-capacity latex-coated resins for anion chromatography
by R. F. Strasburg and J. S. Fritz (Ames, IA, USA) and J. O. Naples (Spring House, PA, USA) (Received March 14th, 1991) 11

Stability of Superdex 75 prep grade and Superdex 200 prep grade under different chromatographic conditions
by I. Drevin and B.-L. Johansson (Uppsala, Sweden) (Received February 19th, 1991) . . 21

Enantiomeric resolution of amino acid derivatives by high-performance liquid chromatography on chiral stationary phases derived from L-proline
by C. Daban Haurou, G. Declercq, P. Ramiandrasoa and J. L. Millet (Paris, France) (Received February 8th, 1991) 31

Applicability of new chiral stationary phases in the separation of racemic pharmaceutical compounds by high-performance liquid chromatography
by F. A. Maris, R. J. M. Vervoort and H. Hindriks (Oss, Netherlands) (Received January 24th, 1991) 45

Chromatographic liquid–liquid ternary phase system with permethylated β-cyclodextrin as chiral additive
by M. Pawłowska and J. Lipkowski (Warsaw, Poland) (Received February 14th, 1991) . . 59

Development of a phase system for intermediate polarity compounds in centrifugal partition chromatography
by S. J. Gluck and M. P. Wingeier (Midland, MI, USA) (Received February 26th, 1991) . 69

Subfractions of membranes from calf brain synaptosomes obtained and studied by liquid–liquid partitioning
by M. T. Muiño Blanco, J. Alvaro Cebrian, B. Olde and G. Johansson (Lund, Sweden) (Received February 15th, 1991) 79

Analysis and fractionation of natural source diacylglycerols as urethane derivatives by reversed-phase high-performance liquid chromatography
by B. G. Semporé and J. A. Bézard (Dijon, France) (Received February 8th, 1991) . . . 89

Determination of a cholesterol oxide mixture by a single-run high-performance liquid chromatographic analysis using benzoylation
by L. Fillion, J. A. Zee and C. Gosselin (Sainte-Foy, Canada) (Received February 26th, 1991) 105

(Continued overleaf)

Two-parameter mobile phase optimization for the simultaneous high-performance liquid chromatographic determination of dopamine, serotonin and related compounds in microdissected rat brain nuclei
by M. Lema, J. Otero and J. Marcó (Santiago de Compostela, Spain) (Received December 27th, 1990) 113

Investigation of the chemical stability of (D-Phe^6,Gln^8) GnRH (1–9)-ethylamide (Folligen) by high-performance liquid chromatography
by B. Szöke, Gy. Kéri, M. Idei, A. Horváth, Gy. Bökönyi and I. Teplán (Budapest, Hungary) (Received February 13th, 1991) 121

Characterization of recombinant eel growth hormone
by S. Sugimoto, K. Yamaguchi and Y. Yokoo (Tokyo, Japan) (Received February 1st, 1991) 131

Evaluation of displacement chromatography for the recovery of lactate dehydrogenase from beef heart under scale-up conditions
by S. Ghose and B. Mattiasson (Lund, Sweden) (Received February 21st, 1991) 145

High-performance liquid chromatographic assay of anthranilate synthase from plant cell cultures
by C. Poulsen, Ed. J. M. Pennings and R. Verpoorte (Leiden, Netherlands) (Received February 8th, 1991) 155

Relationship between retention parameters in reversed-phase high-performance liquid chromatography and antitumour activity of some pyrimidine bases and nucleosides
by S. V. Galushko, I. P. Shishkina and I. V. Alekseeva (Kiev, USSR) (Received February 27th, 1991) 161

Reversed-phase high-performance liquid chromatographic study of the lipophilicity of a series of analogues of the antibiotic "calvatic acid"
by R. Calvino, R. Fruttero and A. Gasco (Turin, Italy) (Received February 6th, 1991) . . 167

Combination of ion-pair and column switching in high-performance liquid chromatography of tropane alkaloids
by T. Oshima, K. Sagara, F. Hirayama and T. Mizutani (Saitama, Japan), L.-Y. He, Y.-Y. Tong and Y.-H. Chen (Beijing, China) and H. Itokawa (Tokyo, Japan) (Received February 5th, 1991) 175

Separation and identification of phytoalexins from leaves of groundnut (*Arachis hypogaea*) and development of a method for their determination by reversed-phase high-performance liquid chromatography
by C. Edwards and R. N. Strange (London, UK) (Received March 1st, 1991) 185

Liquid chromatographic analysis of cationic polymerized phenyl glycidyl ether
by Š. Podzimek and J. Eichler (Pardubice, Czechoslovakia) and M. Tkaczyk (Prague, Czechoslovakia) (Received March 6th, 1991) 195

Analysis of fulvic acids by ion-pair chromatography
by B. Smith (Nottingham, UK) and P. Warwick (Loughborough, UK) (Received March 5th, 1991) 203

The speciation of iron, manganese, phosphorus and platinum in aqueous solutions by using ion chromatography coupled with an element selective detector
by I. T. Urasa, W. J. Mavura, V. D. Lewis and S. H. Nam (Hampton, VA, USA) (Received March 21st, 1991) 211

Reversed-phase liquid chromatographic retention of geometrical isomers of tris(*β*-diketonato)-chromium(III) and tris(*β*-diketonato)-cobalt(III). Comparison with liquid–liquid partition in a dodecane–(methanol–water) system
by S. Tsukahara, K. Saitoh and N. Suzuki (Miyagi, Japan) (Received December 27th, 1990) 225

Gas Chromatography

Temperature dependence of dead time as determined by methane retention in open-tubular capillary gas chromatography
by B. Koppenhoefer, G. Laupp and M. Hummel (Tübingen, Germany) (Received February 13th, 1991) 239

Topological indices as structural parameters. Structure–retention relationships for oxyethylene derivatives of alcohols, thioalcohols and alkylamines
by A. Voelkel (Poznań, Poland) (Received March 13th, 1991) 247

Chemically bonded chelates as selective complexing sorbents for gas chromatography. I. Alkenes
by W. Wasiak (Poznań, Poland) (Received January 21st, 1991) 259

Evaluation of the effect of the cyanopropyl radical on the interaction of the methylene group with silicone stationary phases
by M. R. Becerra, E. Fernández-Sánchez, A. Fernández-Torres, J. A. García-Domínguez and J. M. Santiuste (Madrid, Spain) (Received January 24th, 1991) 269

Stereoselectivity of α-, β- and γ-cyclodextrin complexation relative to *cis–trans* acyclic alkenes and cyclooctenes under conditions of gas–liquid chromatography
by L. Ossicini, G. Perez, G. Caponecchi and A. Cristalli (Monterotondo Stazione, Italy) and D. Sybilska, T. Koscielski and J. Goronowicz (Warsaw, Poland) (Received February 19th, 1991) 283

Determination of volatile aliphatic aldehydes in the headspace of heated food oils by derivatization with 2-aminoethanethiol
by A. Yasuhara (Ibaraki, Japan) and T. Shibamoto (Davis, CA, USA) (Received December 10th, 1990) 291

Gas chromatographic–mass spectrometric separation and characterization of methyl trimethylsilyl monosaccharides obtained from naturally occurring glycosides and carbohydrates
by A. De Bettignies-Dutz, G. Reznicek, B. Kopp and J. Jurenitsch (Vienna, Austria) (Received March 7th, 1991) 299

Derivatization and gas chromatographic determination of hydroxycarboxylic acids treated with chloroformates
by P. Hušek (Prague, Czechoslovakia) (Received February 18th, 1991) 307

Determination of resin and fatty acids in sediments near pulp mill locations
by H.-B. Lee and T. E. Peart (Burlington, Canada) (Received February 28th, 1991) . . . 315

Determination of 19-nortestosterone, testosterone and trenbolone by gas chromatography–negative-ion mass spectrometry after formation of the pentafluorobenzylcarboxymethoxime–trimethylsilyl derivatives
by R. Bagnati and R. Fanelli (Milan, Italy) (Received February 11th, 1991) 325

Use of a liquid crystal stationary phase at temperatures below its melting point for the gas chromatographic study of some volatile oil constituents
by T. J. Betts, C. M. Moir and A. I. Tassone (Perth, Australia) (Received February 25th, 1991) 335

Determination of carbaryl and 1-naphthol in English apples and strawberries by combined gas chromatography–fluorescence spectrometry
by H. Bagheri and C. S. Creaser (Norwich, UK) (Received March 5th, 1991) 345

Gas chromatographic system for the identification of halogenated pesticides by retention indices using *n*-alkanes as standards
by M. De Paoli and M. Taccheo-Barbina (Pozzuolo del Friuli, Italy) and G. Bontempelli (Udine, Italy) (Received March 15th, 1991) 355

Chemical characteristics of herbivore defenses in *Betula pendula* winter-dormant young stems
by P. Vainiotalo, R. Julkunen-Tiitto and M.-R. Juntheikki (Joensuu, Finland), P. Reichardt (Fairbanks, AK, USA) and S. Auriola (Kuopio, Finland) (Received March 1st, 1991) . . 367

(Continued overleaf)

Supercritical Fluid Chromatography

Role of additives in packed column supercritical fluid chromatography: suppression of solute ionization
by T. A. Berger and J. F. Deye (Avondale, PA, USA) (Received February 26th, 1991) . . 377

Analysis of lipids in aging seed using capillary supercritical fluid chromatography
by R. M. Hannan and H. H. Hill, Jr. (Pullman, WA, USA) (Received January 24th, 1991) 393

Planar Chromatography

Direct use of Empore sheets in overpressured thin-layer chromatography
by C. Regnault, P. Delvordre and E. Postaire (Paris, France) (Received February 5th, 1991) 403

Separation and determination of polyether carboxylic antibiotics from *Streptomyces hygroscopicus* NRRL B 1865 by thin-layer chromatography with flame ionization detection
by S. Auboiron and D. Bauchart (Saint-Genès Champanelle, France) and L. David (Aubière, France) (Received February 26th, 1991) 411

Electrophoresis

Separation of water- and fat-soluble vitamins by micellar electrokinetic chromatography
by C. P. Ong, C. L. Ng, H. K. Lee and S. F. Y. Li (Kent Ridge, Singapore) (Received January 16th, 1991) 419

SHORT COMMUNICATIONS

Column Liquid Chromatography

Sample remaining in an ODS column after compositional fractionation of copolymers by high-performance liquid chromatography
by S. Teramachi, A. Hasegawa and T. Matsumoto (Tokyo, Japan) (Received February 8th, 1991) 429

Study of polystyrene–poly(ethylene oxide) block copolymer micelles in aqueous solution by size-exclusion chromatography
by R. Xu, Y. Hu and M. A. Winnik (Toronto, Canada), G. Riess (Mulhouse, France) and M. D. Croucher (Mississauga, Canada) (Received March 22nd, 1991) 434

High-performance liquid chromatography with diode-array ultraviolet detection of methoxylated flavones in *Orthosiphon* leaves
by P. G. Pietta, P. L. Mauri, C. Gardana and A. Bruno (Milan, Italy) (Received February 13th, 1991) 439

Reversed-phase high-performance liquid chromatographic separation of 5β,20-dihydroxyecdysone and 20-hydroxyecdysone on a β-cyclodextrin-bonded stationary phase
by T. Vaisar and T. Vanek (Prague, Czechoslovakia) (Received January 29th, 1991) . . . 443

High-performance liquid chromatographic determination of low levels of primary and secondary amines in aqueous solutions including 2-amino-2-methylpropanol by pre-column derivatisation to sulphonamides
by J. R. Lindsay Smith and A. U. Smart (York, UK) and F. E. Hancock and M. V. Twigg (Billingham, UK) (Received February 20th, 1991) 447

Very high speed separation of proteins with a 20-μm reversed-phase sorbent
by S. P. Fulton, N. B. Afeyan and N. F. Gordon (Cambridge, MA, USA) and F. E. Regnier (West Lafayette, IN, USA) (Received March 19th, 1991) 452

Purification to homogeneity of bovine prolactin by high-performance ion-exchange chromatography
by A. Berrini, V. Borromeo and C. Secchi (Milan, Italy) (Received February 25th, 1991) . 457

Enrichment of biologically active U1 small nuclear RNAs by ion-exchange high-performance liquid chromatography
by V. Leff, J.-P. Gao, L. R. Vega and R. J. Herrera (Miami, FL, USA) (Received February 26th, 1991) 462

Analysis of some tropane alkaloids in plants by mixed-column high-performance liquid chromatography
by S. Mandal, A. A. Naqvi and R. S. Thakur (Lucknow, India) (Received February 25th, 1991) 468

High-performance liquid chromatography of two derivatives of vitamin B_6, the carbamoyl derivatives of pyridoxal 5′-phosphate and pyridoxamine 5′-phosphate
by L. Terzuoli, R. Pagani, R. Leoncini, D. Vannoni and E. Marinello (Siena, Italy) (Received March 5th, 1991) 472

Determination of phenoxyacid herbicides in water
by R. B. Geerdink, A. M. B. C. Graumans and J. Viveen (Lelystad, Netherlands) (Received February 15th, 1991) 478

Separation of cations in buffered 1-methyl-3-ethylimidazolium chloride–aluminum chloride ionic liquids by ion chromatography
by J. R. Stuff (Colorado Springs, CO, USA) (Received March 5th, 1991) 484

Gas Chromatography

Gas phase retention volume behavior of organic compounds on Carbotrap graphitized carbon
by J. F. Pankow (Beaverton, OR, USA) (Received April 9th, 1991) 488

Study of large sample volume injection in a capillary gas chromatographic–Fourier transform infrared system using a retention gap column
by H. Hu, M. Zhu, Y. He and K. Sun (Shanghai, China) (Received January 7th, 1991) . . 494

Determination of nor-nitrogen mustard hydrochloride using gas chromatography with flame ionization detection
by H. Thulin (Helsingborg, Sweden) (Received March 13th, 1991) 501

Determination of diclofop-methyl and diclofop residues in soil and crops by gas chromatography
by W. Liu, Z. Chen, H. Xu and Y. Shi (Hangzhou, China) and Y. Chen (Lanzhou, China) (Received February 11th, 1991) 509

Thermal desorption– and sniffing–mass spectrometric monitoring of enriched trace compounds by means of a "live total transfer system"
by S. Nitz, H. Kollmannsberger, M. Albrecht and F. Drawert (Freising-Weihenstephan, Germany) (Received March 10th, 1991) 516

Planar Chromatography

Lipophilic character of cardiac glycosides: correlation between R_M values and acute toxicity data in different animal species
by G. L. Biagi, M. C. Guerra, A. M. Barbaro, A. Sapone and M. Recanatini (Bologna, Italy) (Received February 26th, 1991) 523

Thin-layer chromatographic method for the simultaneous determination of physiological aromatic amino acids
by L. Sentier, J. Marchal, J. Boudrant and P. Germain (Vandoeuvre-les-Nancy, France) (Received February 18th, 1991) 531

Separation of opium alkaloids by thin-layer chromatography combined with flame ionization detection using the peak pyrolysis method
by N. R. Ayyanger, S. S. Biswas and A. S. Tambe (Pune, India) (Received February 26th, 1991) 538

(Continued overleaf)

Electrophoresis

Improved capillary zone electrophoretic separation of basic proteins, using a fluorosurfactant buffer additive
by Å. Emmer, M. Jansson and J. Roeraade (Stockholm, Sweden) (Received April 9th, 1991) 544

Capillary electrophoretic separation in both H_2O- and ^2H_2O-based electrolytes can provide more information on tryptic digests
by G. N. Okafo and P. Camilleri (Welwyn, UK) (Received April 9th, 1991) 551

Study of chelating tendency of sulphur-containing amino acids by electrophoresis
by B. B. Tiwari, R. K. P. Singh, V. Kumar and K. L. Yadava (Allahabad, India) (Received February 26th, 1991) 554

BOOK REVIEW

Countercurrent chromatography: apparatus, theory and applications (by W. D. Conway), reviewed
by K. Hostettmann 560

Author Index 561

Errata 566

In articles with more than one author, the name of the author to whom correspondence should be addressed is indicated in the article heading by a 6-pointed asterisk (*)